

SPECIAL AIRWORTHINESS INFORMATION BULLETIN

Aircraft Certification Service
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This is information only. Recommendations aren't mandatory.

Introduction

This Special Airworthiness Information Bulletin (SAIB) alerts you, owners and operators of **Bell Helicopter Textron 407 and MD Helicopters Inc. 600N model helicopters**, that there could be a potential fault with the Full Authority Digital Electronic Control (FADEC) system that may cause a sudden, uncommanded decrease of engine power without any cockpit annunciation.

Reference	
Rolls-Royce Corporation (Formerly Allison Engine Company) Models 250-C30R and C47 Turbo shaft Engines	AD 2003-13-10

Background

The National Transportation Safety Board conducted an investigation of a March 27, 2003 Bell 407 crash. They found that a potential undetected failure of the single Power Lever Angle (PLA) potentiometer electrical signal, provided by the Hydro Mechanical Unit (HMU) of the FADEC system, could cause uncommanded and sudden changes in engine power. With this failure, a pilot could switch from automatic FADEC mode to manual mode to regain engine control. However, the transition of engine control from automatic to manual mode might take several seconds. A successful recovery to normal flight might not be possible while operating in low altitude / airspeed combinations under which a safe auto rotational landing is not probable. The reference AD was issued as an interim action and includes an inspection of the single HMU PLA potentiometer electrical signal.

Recommendations

- We re-emphasize to pilots that switching from automatic mode to manual mode can take several seconds. Refer to RFM FADEC malfunctions emergency procedures for specific duration.
- You should report all commanded and un-commanded reversions to manual mode (other than training or post maintenance purposes) to the Chicago Aircraft Certification Office (ACO) point of contact, listed below.

- When operational conditions allow, you should avoid those flight conditions where low altitude/airspeed combinations do not allow sufficient time to make the transition from automatic FADEC mode to manual mode.
- The Chicago ACO approved a dual potentiometer HMU, which is not susceptible to this undetected PLA failure condition as an **alternate means of compliance to AD 2003-13-10**.

For Further Information Contact

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